OKLAHOMA DRINKING WATER
LEAD TESTING
IN PUBLIC SCHOOLS & CHILD CARE FACILITIES

OKLAHOMA Environmental Quality

Understanding the Results

The only way to know if there is lead in your drinking water is to TEST. Lead is colorless, odorless- and harmful to human health. DEQ's Lead Testing in Schools program is a *voluntary* program for schools and childcare facilities to receive assistance in reducing lead in their drinking water to maintain a healthy learning environment for Oklahoma's students.

1. Outlet Inventory

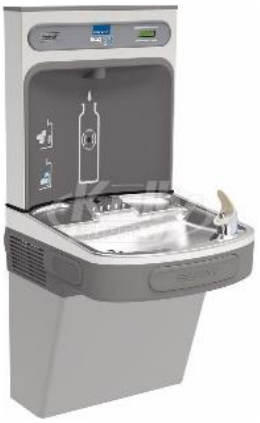
Before a sampling event can take place, DEQ staff meets with school officials to create an 'outlet inventory' of all drinking outlets in a facility. This step is important because it allows our staff a chance to create maps, investigate sources of drinking water, and create an accurate sampling plan to send to our laboratory.

We have created codes for types of drinking water outlets we often encounter while touring schools.

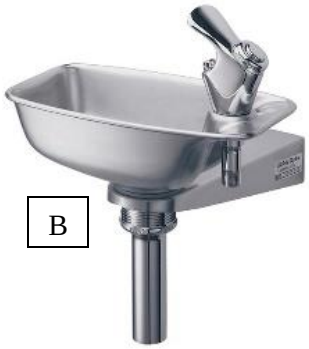
Drinking water outlet codes

BF – Bathroom Faucet
CF – Classroom Faucet
DW – Drinking Water Fountain
IM – Ice Machine
KF – Kitchen Faucet
NS – Nurse's Office Sink
OF – Outdoor Faucet
WC – Water Cooler

A



B



Example: Outlet 'A' would be recorded as a Water Cooler (WC).
Outlet 'B' would be recorded as a Drinking Water Fountain (DW).

Sample ID Breakdown Example

Our staff uses these 'Drinking water outlet codes' combined with other location identifiers, to create a unique 'Sample ID' for each location.

Sample ID	Building	Floor	Room	Outlet Type
1-2-43-CF1	1	2	43	CF
2-1-GYM-WC2	2	1	GYM	WC
3-1-CONC-KF1	3	1	CONC	KF

- The first sample: **1-2-43-CF1**, is in the main building, on the second floor, in Room #43- and is a sample of a ‘Classroom Faucet’

- The second Sample ID is **2-1-GYM-WC2**. This means that it is in the second building of the school, on the first floor, in the gym- and is a sample of a “Water Cooler.”

- The final example, **3-1-CONC-KF1**, is in building 3 on the first floor. CONC is used to mark that this “Kitchen Faucet” fixture is in the Concessions Stand.

Below is an example of an outlet inventory. We utilize this resource to be better able to communicate with schools and our laboratory about samples, results, and suggested remediation actions.

Name of School/Facility: Example Grade/Age Levels: Pre-K through 5th

Order #	Building #	Floor #	Room #	Outlet Type Code	If outlet is a water cooler (WC), list make and model.	Room Name Common Description	Comments	Is a filter in use at this outlet? (Y/N)*	*If yes, complete the following section				Sample Point
									Filter Brand, Make and Model	Date Installed or Replaced	Replace Frequency	NSF Certified for Lead Reduction (Y/N)	
1	1	1	HALL	WC1	Elkay w/bottle filler LEFT	Outside 3rd grade	LEFT	Y					1-1-HALL-WC1
2	1	1	HALL	WC2	BOTTLE FILLER LEFT	Outside 3rd grade	BOTTLE FILLER	Y					1-1-HALL-WC2
4	2	1	KIT	KF1	N/A	Kitchen	Sink by window in kitchen	N					2-1-KIT-KF1
5	2	1	KIT	KF2	N/A	Kitchen	Sink by door- small	N					2-1-KIT-KF1

2. Sampling Events

After scheduling a sampling event with facility staff, our program coordinators will send the completed ‘outlet inventory’ document to our laboratory staff. They will then prepare a sampling kit. Each sampling kit comes with two (250 ml) bottles for each outlet to be tested and Sample ID labels for each bottle.

How samples are taken

Our staff takes two (2) samples at each outlet: a First Draw Sample, and a Flush sample. If lead is found in the sample- these two samples will help us determine the possible sources of contamination (i.e. fixture issue, interior plumbing issue, etc.)

First Draw Sample

Sample taken first thing in the morning. Water sat in pipes for 8-18 hours

Flush

Fixture is run for 30 seconds of continuous water.

Flush Sample

Second sample taken after running the water.

3. Results Breakdown

After receiving the samples- our laboratory analyzes them and generates a report. Our program staff then organizes this report to make the data more digestible. We organize sample results into three categories: Non-Detect (<1.0 µg/L), Low Detection (1.0 – 14.9 µg/L), and High Detection (≥15.0 µg/L).

Below is an example of a results report at a location which has had multiple sampling events (note: micrograms per liter (µg/L) is also known as: parts per billion (ppb)).

Sample ID	Description	First Draw (µg/L)	Flush (µg/L)	Remedial Action	First Draw (µg/L)	Flush (µg/L)
		Initial Sampling			Resampling	
Non-Detect (<1.0 µg/L)						
1-2-43-CF	Classroom Faucet in art room (Room 43)	<1.0	<1.0	N/A		
Low Detection (1.0 – 14.9 µg/L)						
2-1-GYM-WC	Bottle filler on Elkay water cooler in basketball gym	2.8	<1.0	Flush	<1.0	<1.0
High Detection (≥15.0 µg/L)						
3-1-CONC-KF	Kitchen faucet in concessions stand near football field	20.9	16.7	Replaced	<1.0	<1.0

Sample ID | Description of Outlet | Initial results | Action | Resampling Results

What do These Numbers Mean?

EPA Action Level

1.0 µg/L | 15.0 µg/L

<1.0 µg/L

No significant level of lead found.

No action is recommended for faucets where both samples show a non-detect value.

1.0 – 14.9 µg/L

Lead was detected in the sample.

Potential actions to reduce the amount of lead: routine flushing, adding an NSF-certified filter, and/or removing or replacing the faucet.

≥15.0 µg/L

Lead was detected in amounts greater than the EPA Action Level.

Fixtures at this level or above should immediately be made inaccessible until replaced and resampled.

After remediation, DEQ will resample to confirm if the action was successful.

4. Remediation

After receiving results from our laboratory, DEQ staff will communicate with facility staff to create a remediation plan. Each location is unique- and remediation plans can range from: no recommended action at this time, to replacing faucets, to larger-scale interior plumbing replacements. After recommended remediation actions are completed- schools have the option to resample to confirm if the actions were successful at reducing lead levels at that location.

To view results for participating schools and childcare facilities, click **here**

For more information on DEQ's program, click **here**